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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,228	04/01/2002	Peter Henry Tu	RD-29419	9515

6147 7590 06/17/2004

GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH  
PATENT DOCKET RM. BLDG. K1-4A59  
SCHENECTADY, NY 12301-0008

EXAMINER
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STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/063,228

Applicant(s)

TU ET AL.

Examiner

Gordon J Stock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1,4-8 and 10 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20020401</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: H1 and H2 of Fig. 2a. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112 and - 35 USC § 101*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 5-6** are rejected under 35 U.S.C. 112 second paragraph as being indefinite, for **claim 5** claims both an apparatus and the method steps of "processing means processing the respective images obtained from the first and second imaging means to reconstruct the leading edge of the object, the processing means utilizing similarities in illumination of the object ... the

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first imaging means producing corresponding angles of incidence ... reconstructing the leading edge of the object” A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. *In Ex parte Lyell, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990)*. **Claim 6** is rejected as well for its dependence on Claim 5.

**Claims 5-6** are rejected under 35 U.S.C. 101 based on the theory that **claim 5** is directed to neither a “process” nor a “machine,” but rather embraces or overlaps two different statutory classes of invention set forth in U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Id.* at 1551. **Claim 6** is rejected as well for its dependence on **Claim 5**.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1, 4, 7, 8 and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by **Pietrzak et al. (6,205,240)**.

As for **claims 1, 4, 7, and 10** Pietrzak discloses in an optical profile sensor the following: a first light source; a first imaging means, a second imaging means, processing means for processing respective images of the two cameras (Fig. 1: 65, 70, 55, 130; col. 4, lines 60-67; col. 5, lines 1-25). The two video cameras are for the visible range of 680 nm (col. 5, lines 50-60).

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Leading edges of airfoils are determined (col. 3, lines 1-5). And two lasers maybe used instead of the two mirrors (col. 17, lines 53-63).

As for **claim 8**, Pietrzak discloses everything as above (see **claim 7**). And the processing utilizing similarities in illumination and occlusion boundaries of the illuminated portions is suggested by the use of calibration parameters from the interrelating of the camera views to combine images (col. 9, lines 25-40).

*Allowable Subject Matter*

6. **Claim 11** is allowed.

**Claims 5-6** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, and 35 U.S.C. 101 set forth in this Office action.

**Claims 2, 3, and 9** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to **claim 11**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of locating the leading edge of an object “co-locating the first light source and the second imaging means at a coincident point in space, and co-locating of the second light source and the first imaging means at another coincident point in space” in combination with the rest of the limitations of **claim 11**.

As to **claim 5**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for determining the leading edge of an object the first light source and second imaging means as well as the second light source and first imaging means being co-

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located in space coincident with each other in combination with the rest of the limitations of **claims 5-6.**

As to **claim 2**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for locating the leading edge of an object the first light source and second imaging means as well as the second light source and first imaging means being co-located in space coincident with each other in combination with the rest of the limitations of **claims 2-3.**

As to **claim 9**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of locating the leading edge of an object the first light source and second imaging means as well as the second light source and first imaging means being co-located in space coincident with each other in combination with the rest of the limitations of **claim 9.**

#### ***Fax/Telephone Numbers***

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

*Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306*

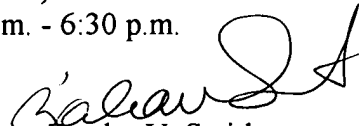
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431. The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

MS

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June 13, 2004



Zandra V. Smith  
Primary Examiner  
Art Unit 2877